

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions,
and listings, of claims in the application.

LISTING OF CLAIMS:

1. (currently amended)

An automated computer-controlled field-deployable monitoring
2 system for collection and analysis of environmental contaminants
and determining the concentration of an analyte of interest in
4 ground water, industrial and surface water, comprising:

diversion means dividing a water sample into first and
6 second flow paths, said first flow path directing the water sample
to a sample chamber- vessel for analysis, and the second flow
8 path passing the water sample- through -one-of-(a)-a-media,--(b)-a--
chamber,-water treatment cartridge containing a sorbent media
10 to eliminate the analyte of interest before introduction of water
into a-sample-chamber- the sample vessel,

12 a calibration assembly to add a standard of predetermined
concentration of analyte to the water after it passes through one--
14 ef-(a)-the-media,--(b)-the-chamber,-a water treatment cartridge
containing a sorbent media to eliminate the analyte of interest,

16 --means-to-reunite-said-first-and-second-flow-paths-into-a--
single-flow-path,-and--

(continued)

1. (currently amended - continued)

18 an-analytical-assembly-- a sample vessel to receive

receive water from said single flow path to determine the

20 concentration of the analyte in the sample water for either of the
first or second flow paths [.] , and

22 means between the calibration assembly and the sample vessel
to reunite said first and second flow paths into a single flow path.

24 [, and]

2. (original)

An automated monitoring system according to Claim 1,
2 and further comprising a calibration loop for establishing
a predetermined amount of standard solution.

3. (original)

An automated monitoring system according to Claim 1,
2 and further comprising:

means to provide a matrix modifier, and

4 a valved loop defining a volume of matrix modifier
introduced into the sample chamber.

4. Canceled.

5. (previously presented)

An automated monitoring system according to Claim 1, and
2 further comprising a casing for the analytical and calibration
assemblies to provide improved environmental control, ease of
4 maintenance and security.

6. (previously presented)

An automated monitoring system according to Claim 1, and
2 further comprising means for stirring a ground water sample to
enhance volatilization of concentration of the analyte in the
4 sample.

7. (original)

An automatic monitoring system according to Claim 1, wherein
2 trichloroethylene is the analyte of interest, and monitoring and
analysis are performed utilizing an optrode assembly and
4 procedure.

8. (currently amended)

A method for determining concentration of an analyte
2 of interest in ground water and surface water, comprising:

providing a field deployable automated computer-controlled
4 monitoring system for determining concentration of an analyte
of interest in ground water and surface water,

6 collecting and transporting a water sample to a
preparatory treatment assembly,

8 passing the water sample to diversion means to divide
the water sample into first and second flow paths, said first
10 flow path directing the water sample to a sample chamber-vessel
for analysis, and the second flow path passing the water sample--
12 through one of (a)-a-media,-(b)-a-chamber,- a water treatment
cartridge containing a sorbent media to eliminate the analyte of
14 interest before introduction of water into the sample-chamber-
vessel,

16 passing the water sample to a calibration assembly to
add a standard of predetermined concentration of analyte to the

8. (currently amended - continued)

18 water sample after it passes through one-of-(a)-the-media,---
{b}-the-chamber,- a water treatment cartridge containing a sorbent
20 media to eliminate the analyte of interest,

reuniting said first and second flow paths into a single
22 flow path, and

passing the single flow water sample to an analytical
24 assembly to determine the concentration of the analyte in the
sample water for either of the first or second flow paths.

9. (original)

A method according to Claim 8, and further comprising:

2 introducing calibration standards into a standard
container and transporting the standard by a sample vessel.

10. (previously presented)

A method according to Claim 8, and further comprising
2 the steps of:

4 calibrating for analysis by providing a predetermined
amount of standard solution via a calibration loop and passing
it into the sample chamber.

11. (original)

A method according to Claim 10, and further comprising:

2 passing the sample from a well casing to a calibration
system to prepare blanks or standards for addition of the
4 standard directly for use in the analytical assembly.

12. (previously presented)

A method according to Claim 8, and further comprising
2 the steps of:

4 introducing the sample into a sample vessel
until a lower sensor is satisfied, and

6 adding water to the sample vessel from a water
treatment cartridge until an upper water level sensor in
the sample vessel is satisfied to provide a predetermined
8 dilution.

13. (previously presented)

A method according to Claim 8, wherein the analyte
2 of interest is trichloroethylene and analysis utilizes an
optrode assembly.

14. (previously presented)

A method according to Claim 8, and further comprising
2 relaying analysis data from the analytical assembly to a
communication system for transmission to a cognizant agency.

15. (previously presented)

An automated monitoring system according to Claim 1,
2 and further comprising a sampling device within a well
casing and comprising valve means and water level sensor
4 means to provide a ground water sample of predetermined
volume.

16. (previously presented)

An automated monitoring system according to Claim 15,
2 and further including a treatment assembly to receive the
sample from the sampling device, said treatment assembly
4 comprising means to provide a calibration standard for the
analytical assembly, and one of (a) a treatment cartridge
6 to filter the sample and a calibration sensor, (b) a source
of analyte-free water connected with the treatment assembly.

17. (previously presented)

An automated monitoring system according to Claim 1,
2 and further comprising means to receive analysis and assay
data from the analytical assembly to transmit the data to a
4 cognizant agency.